

Attorney Docket No. 22845.00

IN THE APPLICATION

OF

JEFFREY M. SIEGEL

AND

KATHLEEN F. ROEBUCK

FOR AN

ELASTIC LOOP FOR SECURING A BAG TO A TRASHCAN

# ELASTIC LOOP FOR SECURING A BAG TO A TRASHCAN

## BACKGROUND OF THE INVENTION

### 1. FIELD OF THE INVENTION

The present invention relates to devices for securing a disposable bag to a container and, more particularly, to an elastic loop used to secure the open end of a disposable trash bag over the rim of a trashcan, thereby preventing the trash bag from sliding down into the trashcan.

### 2. DESCRIPTION OF THE RELATED ART

Generally, when a trashcan is used as a refuse receptacle at an indoor or outdoor function, the trashcan is lined with a disposable plastic trash bag. Typically, the bag is inserted into the trashcan with the open end of the bag folded over the rim of the can. A common problem with this arrangement, however, is that the bag often slips down into the trashcan. Often, as refuse is added to the bag, the open end of the bag is pulled into the trashcan and then buried under later added refuse. In such circumstances, emptying the trashcan is more difficult and time consuming. Instead of simply transporting the bag and its

contents to a larger container, the trashcan must also be transported to the larger container and, once at the larger container, the trashcan must be inverted to empty its contents. Moreover, if the indoor or outdoor function is still proceeding, then the trashcan must be returned to its prior location.

Various devices have been used for securing a disposable bag to a trashcan. For example, some devices are used for securing a disposable trash bag to a trashcan by clamping the upper portion of the bag against the outer aspect of the can. U.S. Pat. No. 4,630,752, issued December 23, 1986 to R.A. DeMars, teaches a rigid hoop attached in a rotatable, hinged relationship to one handle of a trashcan, and U.S. Pat. No. 5,556,063, issued September 17, 1996 to B.S. Boyd, teaches a trash bag retaining band adapted for a specific trashcan. However, neither of these devices can be used to quickly and simply secure a bag to a trashcan with a minimal amount of effort, nor is a single embodiment of either device capable of being used with trashcans of different sizes. The rigid hoop of the '762 patent fits the specific trashcan to which it is attached and requires adequate space and effort to be rotated into position. Likewise, although the retaining band of the '063 patent is sufficiently expandable to slide over and around the rim of a corresponding trashcan,

disposing the band in such a position requires physical effort and, further, a single embodiment of the retaining band cannot be used with more than one size trashcan.

Consequently, a need exists for a device for securing a  
5 disposable trash bag to a trashcan in such a manner that the bag will not slip down into the can as refuse is deposited therein, and that can accomplish this task with minimal effort on a variety of trashcan sizes. Such a device would ensure the easy removal of refuse from a trashcan and would avoid both the necessity of  
10 transporting a trashcan to a large refuse container and the necessity of inverting the trashcan to empty its contents.

In addition to the patents discussed above, various devices have been developed for securing a bag to a trashcan via a hooks or brackets, including U.S. Pat. No. 4,735,340, issued April 5,  
15 1988 to J.H. Preston (rim-mounted bag handle brackets); U.S. Pat. No. 4,763,808, issued August 16, 1988 to J.R. Guhl et al. (wire rim-mounted bag handle brackets); U.S. Pat. No. 4,938,380, issued July 3, 1990 to M.T. Donahoe (container with external rim-mounted bag handle retainers); U.S. Pat. No. 4,957,252, issued September  
20 18, 1990 to V.W. Watkins (support frame for bags with handles); U.S. Pat. No. 5,100,087, issued March 31, 1992 to S.B. Ashby (container with external side-mounted fastening devices); and U.S.

Pat. No. 5,915,584, issued June 29, 1999 to J.M. Sposit (rim-mounted internal hooks for bag handles). The notable drawback of these devices is that each is adapted to support a plastic bag with handles, such as those used by grocery stores. Thus, these devices are not suited for securing a conventional trash bag, without handles, to a trashcan.

Devices which do not attach a trash bag to a trash can, but merely hold the bag in an open position are described in U.S. Pat. No. 3,614,041, issued to E.L. Koger (elevated rim with spring loaded fastener); U.S. Pat. No. 4,738,478, issued April 19, 1988 to P.W. Bean, Jr. (hand-held rim for supporting a flexible bag); U.S. Pat. No. 5,163,278, issued November 17, 1992 to J.E. Martenhoff (funnel with fastening hooks for lawn bag); U.S. Pat. No. 5,217,271, issued June 8, 1993 to C.A. Moe (portable bag holder); U.S. Pat. No. 5,913,496, issued June 22, 1999 to V.G. Valdez (hand-held bag frame); U.S. Pat. No. 6,488,242, issued December 3, 2002 to F.A. Barriere (wall mounted bag rim); and U.S. Pat. Publication No. 2003/0019981, published January 30, 2003 (hand-held bag frame with clips). While useful in holding the bag open, none of the devices can be used with a conventional trashcan.

Other devices having some features in common with the present invention but which do not teach or suggest an elastic loop for securing a trash bag to a trash can are shown in U.S. Pat. No. 5,806,416, issued September 15, 1998 to J.A. Cerniglia (yard and trash compactor that uses cords with hooks) and U.S. Pat. No. 6,047,708, issued April 11, 2000 to Panel et al. ( a thin resilient band used in a hair bun kit). However, while the Cerniglia patent teaches a device incorporating cords having multiple strands, it does not teach a permanent closed loop; and while the Panel patent teaches an elastic loop formed by crimping the ends of an elastic strand, it does not teach a multi-stranded elastic loop.

Thus, none of the above inventions and patents, taken either singly or in combination, is seen to describe the instant invention as claimed. Therefore, an elastic loop for securing a bag to a trashcan solving the aforementioned problems is desired.

#### SUMMARY OF THE INVENTION

The elastic loop for securing a bag to a trashcan is an elastic cord formed into a loop. The cord may be made as a one-piece endless loop, or as a linear cord with its two ends

connected together by a coupler, e.g., a metal coupler crimped together over the opposing ends to form a continuous loop. The elastic cord is constructed of a plurality of elastic strands wrapped tightly in a pliable tubular cover.

5       The continuous loop has a circumference less than the circumference of a trashcan for which it is adapted but can be stretched to fit tightly around the trashcan and thereby secure a trash bag to the trashcan. A single embodiment of the device is adapted for use with trashcans of variety of sizes.

10       Using the device, a trash bag is secured to a trashcan by inserting the closed end of the trash bag into the trashcan and folding the open end of the trash bag over the rim of the trashcan such that a portion of the open end of the trash bag circumscribes the exterior of an upper portion of the trashcan. The device is  
15       then stretched around the portion of the trash bag folded over the rim of the trashcan.

Accordingly, it is a principal object of the invention to provide an elastic loop for securing a trash bag to the rim of a trashcan.

20       It is another object of the invention to avoid slippage of a trash bag down into a trashcan by providing an elastic loop for securing a trash bag to the rim of a trashcan.

It is a further object of the invention to facilitate quick and easy emptying of a trashcan lined with a trash bag by providing an elastic loop for securing a trash bag to the rim of a trashcan.

5 Still another object of the invention is to provide an elastic loop for securing a trash bag to the rim of a trashcan in order to avoid either having to transport a trashcan to a larger container or having to invert a trashcan in order to empty the trashcan of its contents.

10 A further object of the invention is to provide an elastic loop for securing a trash bag to a trashcan which resists breakage by providing the loop with multiple strands.

Further, it is an object of the invention to provide improved elements and arrangements thereof for the purposes  
15 described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

These and other objects of the present invention will become readily apparent upon further review of the following specification and drawings.



## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of an elastic loop for securing a bag to a trashcan according to the present invention.

5 Fig. 2 is an exploded view of an elastic loop for securing a bag to a trashcan according to the present invention.

Fig. 3 is a section view along lines 3-3 of Fig. 1.

Fig. 4A is a perspective view of a coupler for an elastic loop for securing a bag to a trashcan according to the present  
10 invention.

Fig. 4B is an end view of the coupler of Fig. 4A.

Fig. 4C is a top view of the coupler of Fig. 4A.

Fig. 5 is a perspective view of an alternative embodiment of an elastic loop for securing a bag to a trashcan according to the  
15 present invention.

Fig. 6A is an exploded environmental perspective view of a an elastic loop for securing a bag to a trashcan according to the present invention.

Fig. 6B is another exploded environmental perspective view  
20 of an elastic loop for securing a bag to a trashcan according to the present invention.

Fig. 6C is a third environmental perspective view of an elastic loop for securing a bag to a trashcan according to the present invention shown securing a trash bag to the trashcan.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is an elastic loop for securing a bag to a trashcan designated generally as 10 in the drawings. Referring first to Figs. 1-3 of the drawings, the invention includes an elastic cord 12 and a coupler 20. The elastic cord 12 has two ends 13 and 14 which are disposed end-to-end and crimped together with the coupler 20 to form a continuous elastic loop 10. In cross section, the elastic cord 12 is round, as shown in Fig. 3, and incorporates a plurality of elastic strands 11 wrapped tightly together in a pliable tubular cover 15 or sheath. The diameter of a cross section of the elastic cord 12 is between about one-quarter of an inch and about 3/16 of an inch.

The coupler 20, shown separately in Figs. 4A-4C, is constructed of metal. Prior to assembly of the invention, the crimp 20 has a rectangular bottom wall 21 and two substantially

rectangular sidewalls 22 and 23 joined to form a U-shaped channel. The bottom wall 21 has four triangular gripping spikes 24 protruding upward from its top surface. The four triangular gripping spikes 24 are formed by punching through the bottom wall 21 with a die adapted to form one or more triangular protrusions from a flat piece of sheet metal. The two sidewalls 22 and 23 extend upward from opposite edges of the bottom wall 21 and are substantially parallel to each other 22 and 23. The top edge 25 of each sidewall 22 and 23 is serrated. When the crimp 20 is crimped to the elastic cord 12, the four triangular gripping spikes 24 penetrate the elastic cord 12 to provide a secure crimp of the two ends 13 and 14 and the crimp 20 adapts to the rounded shape of the elastic cord 12.

It will be understood that the description of coupler 20 is exemplary for purposes of enabling the invention, and not intended to limit the scope of the present invention. Any other form of coupler for joining together the two ends of a flexible cord known to those skilled in the art may be used in lieu of the metal, crimp-type coupler shown in the figures.

The pliable tubular cover 15 is constructed of a pliable elastic material and can be a single color or a combination of colors set in a pattern such as stripes.

When not stretched, the device 10 has a circumference less than that of a trashcan for which it 10 is adapted. The device 10 is capable of being stretched to fit tightly around the rim of a trashcan and to thereby secure a trash bag to the trashcan. Using  
5 the device 10, a trash bag is secured to a trashcan by inserting the closed end of the trash bag into the trashcan and folding the open end of the trash bag over the rim of the trashcan such that a portion of the open end of the trash bag circumscribes the exterior of an upper portion of the trashcan. The device 10 is  
10 then stretched around the portion of the trash bag folded over the rim of the trashcan.

As shown in Fig. 5, an alternative embodiment 30 of the invention is constructed without a crimp. In this embodiment 30, a plurality of elastic strands is tightly wrapped in a looped  
15 tubular cover.

Figs. 6A-6C show an elastic loop 40 and in use with a trashcan 50. Elastic loop 40 may have the structure of either loop 10 or loop 30. As shown in Fig. 6A, the trashcan 50 has a groove 51 circumscribing its sidewall near its rim 52. When not  
20 stretched, the elastic loop 40 has a circumference less than that of the groove 51. The elastic loop 40 is capable of being

stretched to fit tightly around the groove 51 and to thereby secure a trash bag to the rim 52 of the trashcan 50.

It is to be understood that the present invention is not limited to the embodiments described above, but encompasses any  
5 and all embodiments within the scope of the following claims.